

PROCEEDINGS
OF THE
Worcester Society of Antiquity,
FOR THE YEAR
1901.



WORCESTER, MASS.:
PUBLISHED BY THE SOCIETY.

U. S. A. CXXV.

1901.

Attention is called to an error in the numbering of the Proceedings for January and February, 1901.

Recipients are requested to change the numbering of that issue from 11 to 8.

All preceding numbers, beginning with No. 1 of 1900, together with all publications issued during the present year, are designed to be bound in one volume, and title page will be furnished with the last number of this volume. This volume will be No. XVII.

[OVER.]

Society's Proceedings-
statement relative to the work and expense attending it, the President called for reading of the report of the Executive Committee, to whom the matter had been referred. Report as follows:

Executive Committee met at the residence of the 2d Vice-President, Georgia T. Kent, Tuesday evening, January 22, 1901, for the purpose of considering the subject of printing and issuing the Proceedings of the Society. After a full and careful discussion of the matter it was voted, 1st, to recommend to the Society that in the future advertisements be omitted; 2d, that the issuing of a publication for each meeting of the Society be discontinued; 3rd, that some person be employed to assist the Librarian and act as janitor under direction of the Librarian.

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The BULLETIN has been discontinued

357th Meeting.

Tuesday evening, March 5, 1901.

President Crane in the chair.

Others present: Messrs. Arnold, C. C. Baldwin, Dickinson, Darling, Davidson, Ely, Gould, Hadwen, M. A. Maynard, Geo. Maynard, Geo. M. Rice, Williamson, Mrs. C. C. Baldwin, Mrs. Barrett, Mrs. Darling, Miss Moore, Mrs. A. C. Munroe, Miss H. A. Smith.

Librarian reported additions for the past month, 27 bound volumes, 25 pamphlets, 28 papers, and 3 miscellaneous articles.

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Following the reading of the report, Vice-President Maynard stated that some objections had been made to having advertisements inserted in our publications unless they were of same character of the work of the Society, also that a little expense would be saved and the size of the publication be made more uniform by incorporating the reports of two meetings in one issue.

After further discussion of the subject the Society voted to accept and adopt the report of the Executive Committee. It was then voted that the publication of the Proceedings be left wholly with the Executive Committee, with instructions that at least six numbers be issued annually.

The meeting was then adjourned from the reception room to Salisbury hall, where an audience nearly filling the hall was in waiting to listen to President Crane's lecture entitled, "An Overland Trip to California in the Year 1860." More than fifty stereopticon views were exhibited illustrating the vehicles used on the trip, together with their outfit, and the marvelous landscape scenery to be found on the journey.

AN OVERLAND TRIP TO CALIFORNIA
IN THE YEAR 1860.

Ladies and Gentlemen:

You no doubt are all familiar with the history of California, and know that territory was once in the possession of Mexico, and that through the fortunes and misfortunes of war the United States became the possessor in February, 1848, of this land of then untold and undeveloped wealth.

While the American colonies were struggling for their independence in 1776, some of the Fathers of St. Francis established a Catholic mission, called Mission Dolores. It was the first white settlement at San Francisco. These Franciscan Fathers established other missions along the Pacific coast south of San Francisco, and during the fifty years they, with the consent of the native Indians, enjoyed a free run of the Pacific slopes, accumulated a vast amount of wealth, estimated at many millions of dollars, including horses, sheep, cattle, hogs, coin and bullion. At the downfall of the Spanish rule in Mexico, these missions began to decline, and at last were abandoned by the priests, and the property was confiscated in the year 1845.

The excellent climate, fertile soil, and glitter of its gold and silver soon attracted the attention of adventurers in various parts of the country, and people began to find their way into this El Dorado.

Commodore Jones of the United States Navy, in October, 1842, believing that hostilities were in progress between Mexico and his home government, sailed into the harbor of Monterey, captured the fort, hoisted the stars and stripes, and declared California a territory of the United States.

Commodore Jones was nearly four years ahead of time. Undoubtedly his wish was father of his thought. He found the next day that war did not exist between the two countries, hauled down the flag, and apologized to the Mexi-

can authorities for his conduct. Here was one instance where the United States flag was hauled down after having been hoisted over conquered territory, but it was where the declaration of possession was too hastily made. On July 7, 1846, possession was again taken in behalf of the United States, this time by Commodore Sloat, and in less than two years from this date reports of the finding of gold there caused a vast number of fortune-seekers to immigrate to that country. Some went by vessel around Cape Horn, others by way of the Isthmus^s of Panama (the Nicaragua route being perhaps the chief one). A considerable number, however, found their way across the country, traveling with private teams. The year 1849 is memorable in the history of California as the advent of the mining population. In 1850 the population of the state was 92,600. In 1860, the year your speaker visited the state, it was 380,000; the increase has been at the rate of 200,000 to 300,000 every ten years.

It is a common saying that the old 49-er is invariably *poor*. A very small per cent. of those who went expecting to become rich, lived to enjoy that result of their labors.

Having decided on our journey, we shall proceed to prepare for the start. Lightness and durability must ever be in mind while selecting the outfit. Every pound in weight saved is of the greatest importance. With no repair shops at convenient intervals along the route, strength of materials in the construction of the outfit is also a prominent factor to be considered. A well-made, strongly-ironed, one-horse wagon is purchased, the reach lengthened to appropriately carry a body of about twelve feet in length. This body is carefully put together, made as nearly water tight as it conveniently can be, so that if occasion requires, it may be used as a boat. The sides of the body are about one foot in depth, and supplied with tool-boxes on either side about midway from each end; also another box inside and across the front end, the cover serving as a seat for

the driver when no better one is provided. To the sides (and overarching the body) a set of wooden bows is attached, over which is drawn a canvas cover to furnish protection from the hot sun and the rain. With a brake of sufficient strength to hold the hind wheels from turning and a pole with fixtures for attaching four horses, we have our wagon in readiness. Three or four sets of shoes for each horse must be stored in the tool-boxes, with hammer, nails, and the proper tools for shaping their hoofs; a few pairs of bits and extra straps to provide for breakage of harness; a coil of 25 or 30 feet of $\frac{3}{4}$ rope with 18-inch iron pin attached, for each horse; a few draft-chains, and an extra king-bolt or two, will give a fair equipment for that portion of our outfit.

As food for our animals can be obtained along the route for the first few hundred miles, it is not necessary to load the wagons with flour, cornmeal and oats until about to take final leave of the settlements. We, however, provide three dozen two-bushel bags and a half dozen twelve-quart tin pails for use when needed. For a trunk we use a two-bushel bag, and place in it as little wearing apparel as our judgment will suggest for the journey.

With a supply of common remedies to be used in case of sickness of man or beast, we are perhaps ready to make the start. As a body-guard the writer had one rifle, a double-barreled shotgun, a Colt's revolver, with a generous supply of powder and lead, also a sheath-knife.

You may be interested to know what our menu was on this journey: bread, bacon, beans, molasses and coffee. Bread was baked in a baking-kettle covered with hot coals and ashes, baking-powder being used in place of yeast. Fat from fried bacon was a substitute for butter; molasses served for both sugar and milk in our coffee. The beans were stewed in a tin pail hung over the fire. By the killing of wild game we occasionally had fresh meat, regaling

ourselves a few times on steaks from the buffalo, antelope and the grizzly bear.

There are more or less dangers, trials and incidents attending such a trip: dangers from sickness of man or beast caused from poisonous food and drink found by the way-side. One of our party, careful for fear he should receive harm from drinking impure water, carried a little black pepper, and sprinkled that in before drinking water taken from the roadside. Although he lived to complete the trip, he died within a few years; whether from the effects of the pepper or water I never knew. Dangers from Indian depredations, and from stampeding of horses. The latter are perhaps as much to be dreaded as either of the other causes cited. To see your horses galloping out of your sight in the direction of home, the run only to end when the animal's strength has become exhausted, is not a scene pleasant to contemplate.

Some of the trials to contend with are petty jealousies and quarrels; men get tired, and rough, out-of-door life tends to lower the standard of citizenship. I knew a man who, after the passage of a few hot words over the bringing of a basin of water in which to wash his hands, drew his knife and killed his assailant on the spot. This man was courtmarshaled and drummed out of camp, left to seek other company or starve.

Our first stampede occurred while camped a few miles west of Omaha. We were educating our horses to the picket rope. Each horse was fastened by a twenty-five foot rope, one end about his neck, the other end attached to an iron pin driven in the ground. As our animals were of a very lively disposition, it was amusing to see them go through their various evolutions, running from one side to the other as far as the rope would allow, sometimes coming to a short stop, landing on their heads, at others getting wound up with the rope about their legs, requiring some one to release them. After a few days' watching to

help them out of their difficulties, they learned the ropes and kept out of trouble.

It was in the edge of evening when our attention was called to an unusual activity among the horses, and before we could quiet them ten out of the thirteen succeeded in drawing the iron pins and starting for Omaha at the top of their speed. We had the consolation that it was not many miles to the bank of the Missouri river, and that would probably prove a serious barrier to further progress homeward. The writer was not long in mounting one of the remaining horses, and started in pursuit of the runaways. On through Omaha (then a place of but a few thousand inhabitants) the horses were traced, and down to the river-bank, where they turned to the right down the stream. It was getting dark, and the footprints in the sand could no longer be seen, but pursuit was continued and after riding a few miles further came to a thicket of willows. The frequent neighing of the horse under saddle (his mate being among the runaways) was at last answered, and forcing a passage into the thicket, found two of our animals completely wound up among the willows by the long ropes they had been dragging throughout their mad run. A free use of the knife soon liberated them. Darkness preventing further search at this time, I again mounted my horse, and with a runaway on each side, started for the return to camp. Finding one animal did not care to be led, I applied in gentle form a willow switch. At the very first stroke, I found myself dragged from my horse, and going through the brush at a rapid rate, wound up in the coil of rope I had put on my saddle. The thick willows, however, prevented the horse from dragging the saddle and rider a great distance. When the halt was made, found some severe bruises, and as a consequence was quite lame for two or three weeks.

After mending the broken girth to the saddle, to show my friendly feeling for the headstrong animal, placed the

saddle on her back, and reached camp little before midnight. Early the following morning the search was continued, with the result that the other eight animals were found about seven miles further down the river than the patch of willows visited the night before.

Our journey of something more than 2,000 miles in length carries us across (as the map shows to-day) seven states: Wisconsin, Iowa, Nebraska, Wyoming, Utah, Nevada and California. In 1860 it was three states and three territories, Nebraska, Utah and Nevada being then territories. We cross the Mississippi river by ferry at Dubuque and the Missouri river at Omaha. The pictures given to illustrate this journey were not taken at the time it was made. The kodak was not in common use then. They have been selected, however, to properly represent the general scenery of that region of country.

It is impossible to express in words the beauty and grandeur of the scenery to be found in that western country. It must be seen to be fully appreciated. Through Wisconsin and Iowa the gently-rolling surface, dotted here and there with groves of timber, fertile prairies and clear, running streams, give sufficient variety of landscape to interest the traveler. As you traverse the western portion of Iowa and draw near the Missouri river, you find more of prairie and less of timber. After leaving the Missouri river, proceeding up the Platte river, you soon lose sight of trees altogether. The trail we are to follow extends along the bottom lands, bordering this river about 500 miles. To the north and the south as far as the eye can reach are seen gracefully rolling grassy hills where roam the buffalo, antelope, elk and the coyote. Here also may be found the sage-hen, jack-rabbit and prairie-dog. The latter have their villages, living in their underground houses in company with snakes, owls, etc.

This Platte river valley was at some early period covered with water, forming a very wide stream or great lake.

The water-line was easily traced along the hills on either side as we made our way westward. Sage-brush and grease-wood are about the only shrubs to be seen for hundreds of miles. The stalk of the former in looks resembles the grape-vine. It seldom grows more than five feet in length, usually in clusters, forming a tangled mass upon the ground, and standing up not more than four feet high, size of the stalk not more than two inches in diameter. The grease-wood grows more slender and straight, reaching two to five feet in height. You will therefore understand that fuel was extremely scarce. After reaching the Black Hills, fuel is more plenty, although very little timber came within our view before reaching the Sierra Nevada mountains.

The 5th day of June we took leave of Omaha, and in the afternoon experienced the severest storm it has been the writer's fortune to witness. One wagon was capsized by the wind while traveling in front of us, and when hailstones the size of marbles and even up to hens' eggs came, our horses wheeled from the road and ran with the storm across the smooth prairie at a rapid rate. Coming to a ravine we were able to quiet them, and by holding our blankets over them they stood quietly while we were drenched in the rain that came like a cloud-burst over us. Not until evening did our fifteen men with their five wagons and thirty-seven horses come together again, so widely were they scattered by the storm. On account of wet clothing the writer burrowed for the night in a hay-loft. Four days later we reached Loop Fork, a tributary of the Platte, which we crossed by a ferry. Here we found a village of the Pawnee Indians. They being anxious to sell their wares, our cook, Mr. Frost, on being told they asked two bits for a pair of moccasins, went rummaging in the tool-box for bridle bits with which to purchase a pair, not knowing that their two bits meant two shillings,—a joke he remembered for some time after we let him try to make the purchase.

On coming to Wood river the recent rains had so filled the river-banks we found the bridges carried away, compelling us to ferry over our supplies in one of our wagon-bodies, a long rope being attached to each end of the body, and by that means drawing it back and forth across the stream. Saturday, the 16th of June, we arrived at the fording place on the Platte river opposite Fort Kearney. As many of our party had ordered their mail directed to that post office, there was a strong desire to visit the place, but the spring freshet was on, and the government stage had not been able to cross for a week. We thought of our friends at home, and felt sure we should find some word from them could we reach the post office. Charles Garrett and the writer volunteered to make the attempt. Saddling two of the tallest horses, we mounted them, and after crossing ten channels, the most of them deep enough to cause our horses to swim, we arrived at the fort, found a generous supply of mail-matter, which we carried back over the ford to the eager ones waiting to hear from home.

The following day about noon we espied a small herd of buffalo. Three of the fleetest horses in the party were saddled, and Godfrey, Hart and the writer gave chase. For some reason Godfrey did not follow up when the buffalo began to run, which they proceeded to do as soon as they saw us. Mr. Hart, being on a horse trained for running, soon overhauled the bison he singled out, and poured a broadside from his revolver into the animal, which he carried off seemingly unhurt. Mr. Hart reloaded his revolver and continued the chase.

The third party, with rifle in hand, ran his horse up to a fine specimen, and, finding a deep slough obstructing his passage, dismounted and tried to get a shot, but the frightened horse demanded so much attention that the buffalo was out of range before the horse could be quieted. Again the rider mounted his horse and followed the herd for several miles into the hills. But the great, clumsy-gaited

buffalo in the long run can outdistance the horse. It is only on a quick dash that the horse is able to cope with them for speed. After we had enjoyed our run, and given our game a little lively exercise, returning to the road, came upon friend Hart at a little stream bathing the neck of his horse. "I have accidentally shot this horse," he said as the writer rode up. A careful examination disclosed only a flesh wound across the top of the neck, and with the solemn promise that neither of us should refer to it until further developments, we made our way back to the train, which we overtook about sundown.

During the early part of the chase the writer's hat disappeared, and the blazing sun made severe work with the upper portion of his face, causing no little discomfort for many days.

Thursday, June 21, in the forenoon we espied objects approaching from the west. They proved to be about 400 Sioux Indian braves, all mounted on fleet ponies, and decked in their war-paint and feathers. We breathed more freely when we learned they were not after our fifteen scalps, but were on their way to punish the Pawnees for raids that tribe had been making on their horses and cattle. We kept on our way while they passed us, with all the pomp and stateliness of a regiment of United States Regulars. In their dress they were not confined to regulation uniforms. They wore nearly every style conceivable. Especially prominent were samples of uniforms once worn by our United States soldiers of almost every rank.

About sunset we met the rear guard of this army, composed of the squaws, the elderly and youngest of the party. Some of them were fine specimens of the Indian type. An elderly woman attracted attention on account of the elaborate dress she wore, made of buckskin tanned white, and beautifully embroidered with various colored beads. She was wife of a chief. Whether the presence of Indians in the vicinity had anything to do with the circumstance or

not I cannot say, but a short time before meeting this war party we were startled from our slumbers about midnight by the unwelcome sound of our horses rushing by our wagons in a mad stampede. Thirty out of the thirty-seven horses attempted to show us their heels. All hands were out in a moment; three of the remaining horses were saddled, and Danforth, King and the writer followed in pursuit. The rain was falling in torrents. The only light by which we could follow the trail was from the flash of lightning that came at intervals. Many times we were obliged to dismount and feel with our hands to find the track our wheels passed over the day before. After a ride of twenty-five miles we overtook the runaways at daylight and returned to camp with them.

Two weeks later, just at evening, seven of our lively horses tried the same feat and accomplished more than they set out for. Six only were recovered; one, a fine animal, ran into the Platte river and was drowned. That experience seemed to have its effect on the animals, for we had no more stampedes of any significance during the remainder of the journey.

Castle Rocks, a curiosity well worth a passing glance, stood at the right of the road on the north side of the Platte. June 27th we came in sight of Chimney Rock, a great natural curiosity. Carved from solid rock by action of the elements, it stood there about 50 feet square at the base, 30 feet square at the top and 275 feet high (50 feet higher than Bunker Hill Monument). It was composed of sandstone and stood on the south side of the Platte about three-fourths of a mile back from the river bank. The writer visited it in company with Mr. Frost, and our names were carved at the base of the shaft by the side of hundreds of other names.

On reaching Fort Laramie, we crossed to the south side of the Platte on the ferry. One of our party, who had seen service as cavalryman in the Crimean War, asked the privi-

lege of swimming one of the horses across, suggesting that the other horses could be driven in behind him and they would follow across, thus saving several dollars of toll money. The stream at this point was very deep and the current swift. The loose horses were driven up to the landing ready for the start, and our plucky Englishman mounted a horse and started in. When a few rods from shore, from holding too tight a rein, the horse careened over backward, causing the Englishman to slide off; and losing his hold on the animal, and not being able to swim, was left in a most precarious condition, and soon called loudly for help. One of the Indians, watching the performance, ran to the bank and threw out the end of his lariat, but it was not long enough to reach the drowning man. There was a sharp turn in the current just below the ferry, and to that point we rushed, and there he was rescued, not, however, until he had given himself up for lost.

Our course was now through the Black Hills, in the direction of South Pass. Devil's Gate is a fine natural curiosity, standing at the north of the road about five miles distant. On examining Independence Rock, we found among the names cut in the rock that of John C. Fremont, dated 1842, and again in 1845. Sighting some mountain sheep, the writer took down his rifle, and began to climb for them. After plodding for an hour, found that they were watching closely and moving off, keeping the distance good between us. Not being able to bring them within range, returned to the wagons, believing mountain sheep are very cunning and not easily captured.

For nearly five hundred miles from Fort Laramie to Salt Lake City, we were shut in by mountains, and surrounded by barren rocks and alkali beds, many places showing signs of, at some time, great volcanic action. Here and there were verdant spots to refresh the jaded traveler and his still more tired and jaded horses.

The grand canyons through which we found our way, cut through lofty ledges of solid rock by action of mighty waters or volcanic upheavals, commanded our wonder and admiration, while the grandeur and stateliness of the mighty peaks towering amid the clouds above our heads filled us with bewilderment as we gazed at the marvelous wonders of creation.

Many if not all of you have, at some time, witnessed what would be termed severe, and perhaps terrific thunderstorms; but to get the best effect of such a storm, you need to be engulfed in the cloud itself. At a height of over 7,700 feet above the sea, while traveling in the midst of the clouds, shut in on either side with high mountains, we witnessed one of those grand displays. To be sure, the roar of the peals of thunder was almost deafening, but to see the electricity all about you, darting over the ground like so many huge snakes, was indeed an interesting sight. All felt more at ease after the excitement was over.

After going through South Pass, we came to Simpson's Hollow, where we found cinders and old irons, all that was left of the seventy government wagons captured and burned by the Mormons two years before.

For a number of years prior to 1858, the Mormons in Utah had come to believe they were the supreme authority there, and almost openly defied the government authorities. That terrible slaughter known as the Mountain Meadow Massacre, 1857, caused drastic measures to be introduced by the United States government to remind the Mormon leaders of their allegiance to the territorial laws. Government troops were sent out to enforce these laws, and the Mormons organized their army to oppose them. The capture and burning of this train of seventy wagons were one result of the severe tension of the time.

The Mormons fortified Echo canyon, where they expected to meet and annihilate the United States troops before they should reach Salt Lake City.

This canyon is one of the finest natural curiosities to be seen on the journey. It is twenty-two miles long, with Echo creek running through its entire length. Perpendicular rocks line both sides nearly all the distance, and in places extending hundreds of feet in height. The road down through the canyon runs most of the way in the bed of the creek, crossing it seventeen times in going the twenty-two miles.

The strata of these perpendicular rocks lining the sides are composed of various colored sandstone, in which the action of frost and rain has carved out beautiful specimens of pinnacles, domes, and turrets. With the sunlight streaming upon them, they at times present a sight of rare beauty.

As we descended the mountain leading to the eastern entrance to the canyon, a short distance from the trail at the right we found a cache, a room ten or twelve feet in diameter, cut out of the rock by Indians, in which to store their supplies.

Passing on through the canyon, we came to the ovens used by the Mormons in baking bread for their army while the place was fortified by them. At one side of this narrow passageway they threw up a high embankment of earth and rock to check the progress of the United States army in that narrow defile, and at the proper signal the Mormons had arranged to roll down vast quantities of rocks collected on the summit of the overhanging ledges, and thus crush out the life of our government soldiers. Many cords of those rocks were to be seen piled up ready for use.

After fording Green river, we turned through Parley's Park, and on over the summit that separated us from the valley of the Great Salt Lake.

On reaching the westerly side of this park, finding excellent feed for our horses, we remained in camp three days, improving the time by calling on William Kimball, son of a prominent Mormon of that name, who owned a large ranch here.

Never can I forget the thrill of delight that came over me as we stood upon the last summit that separated us from the valley of the Great Salt Lake. For weeks we had been traveling through deep valleys and canyons, with high peaks all about us, our vision comparatively shut in, except skyward, when early one morning we began to climb this mountain-ridge that stood across our pathway to the great Mormon city. All day we plodded on, walking by our wagons to relieve the tired animals as they labored under their heavy loads. On and up we went, only stopping for a brief rest at the noon hour, then pushing forward, thinking as we passed over each rise that there could be but one more to climb; but one and another came looming up before us, when at last, about 4 o'clock in the afternoon, we reached the summit. For a moment all in the party were speechless at the enchanting scene presented to their view. The next moment hats went whirling in the air; their voices rang with joy as they looked out upon the beautiful panorama at their feet. Across the valley twenty miles away stood the range of mountains that formed the barrier on the west. To the south, as far as the eye could reach, were the placid waters of Utah lake, with its surface glistening in the sunlight; away to the north could be seen the Great Salt Lake, and winding down through the valley below like a huge serpent, and connecting these two bodies of water, was the river Jordan, along whose banks could be seen numerous herds of cattle and horses feeding upon the rich carpet of green that was spread out before us. In the right-hand corner of the picture, resting between the waters of Salt Lake and the foot of the snow-capped mountain, stood the city of the Latter-Day Saints, the long-looked-for resting-place for weary men and jaded horses.

Thus far so little trouble from outside influences had come to our notice that we began to believe that our company of fifteen men could face almost any like undertaking. But the reports that came from officers of the United States

army, then conducting a sharp campaign against the warlike Indians west of Salt Lake, led us to remain here about three weeks, for the purpose of recruiting our horses and accumulating the proper number of men for self-protection through the Indian country we must pass.

At last we decided to go by Simpson's cut-off, a route then recently explored by Lieut. James H. Simpson, U.S.A., and traveled by the Pony Express, and our original company of fifteen again took up the march, and after traveling four days, halted for the others to come up and complete the contemplated organization.

One evening, while camped at the foot of a mountain, the horses were given their liberty to grope about for feed, and being stationed some little distance from the wagons, the writer was left to watch them while the rest of the men went down to the wagons for supper. Darkness was slowly creeping over the sides of the mountain, yet it was light enough to faintly distinguish several horses moving off in a direction that convinced the writer that they were not feeding, and on investigation found three Indians making off with four horses. Two well-directed shots from a Colt's revolver saved three of the horses, the Indians leaving them, and pushing on up the mountain with the other one, exchanging shots as they went. The firing had signaled the men at the camp, who quickly came to render their services. But it being too dark to follow the trail of the stolen horse, we concluded to wait until morning, when we would pursue the robbers. Several times during the night, by the light of the moon, Indians were seen skulking about the camp, but at a safe distance away. At early morning light, we found the tracks of our missing horse, and followed over the mountain, down the other side through the bed of a small stream, and on several miles. Coming to an Indian camp we reconnoitred and estimated 75 to 100 Indians there. Believing discretion the better part of valor, the four pursuers returned to their camp for recruits, intending

to return and storm the Indian camp unless our stolen horse was given up. About the middle of the afternoon, greatly to our astonishment, an Indian came riding into our camp leading the stolen horse, which he, the chief, came to return. We rewarded him for his kindness, as we were glad to end the matter so easily.

Our company soon assembled, giving us thirty-eight men, fourteen wagons and about sixty horses. We elected Mr. Woodside captain. He was a delegate from Oregon to the National Convention that nominated Abraham Lincoln for the Presidency that year, and on his way home. He was an experienced frontiers-man, and we were glad to secure his services. We were also joined here by "Billy" Rogers, United States Indian agent for the Shawshonee tribe, who had been escorted through the hostile Indian country on his way to Salt Lake by United States soldiers, and was now returning to his tribe in Ruby valley and wished to travel with us.

Six days out from Salt Lake City, during our noon hour in Tooele valley, three armed men came riding through our drove of horses and mules as they were feeding. Coming up to the wagons the spokesman of the party claimed a certain pair of mules, to which he pointed. The owner stepped forward to learn from the visitor, who stated he was a sheriff, and there to take possession of those mules; that they had been stolen from one of the three visitors. The mules were examined, and sure enough the private mark he described was on them. The man, who had just joined our company, said he purchased those mules at Omaha of a man claiming to be a nephew of Brigham Young, and had traveled thus far from the Missouri river with them, and felt that he was the rightful owner. The sheriff replied he would have to take possession of the mules, and our friend could go before the court and let that tribunal decide the case. Our men held consultation, and concluded if we resisted the sheriff some

one of the party would be likely to get severely hurt, perhaps killed. As the traveler was a stranger to us, it would be best for him to go to the courts with his case, although many of us were convinced in our own minds that the unfortunate man would never have possession of his mules again, and our heartfelt sympathy followed him as he passed out of our sight on his way to Tooele (the county seat) in company with the sheriff and his deputies. We never heard from our friend afterward, although we were told that such cases came up quite often; that horses, mules and cattle were taken down to the Missouri river, sold to or exchanged with people going to California, and when arriving at Salt Lake the animals were claimed as stolen property. Of course the courts must hold the property on the evidence.

Sept. 4 we came to the Great American Desert, forty-five miles without feed or water. Started to cross it at six o'clock in the afternoon, carrying what water and fresh grass we could for the horses; when half way over gave each animal his allowance of water, with a pint of flour stirred into it, accompanying it with a few mouthfuls of grass. The stop was very short indeed. Pushing on, reached the opposite side about four o'clock the following afternoon.

We now found ourselves in the centre of Indian hostilities. Obligated to travel through the daytime with a guard posted each side of our train ready for an attack any moment. United States soldiers were patrolling the country, driving the Indians back from the track of the Pony Express. Collisions with them were frequent. Indian signal-fires could be seen every night, and as at that time a double guard was required, each man in the company was obliged to serve every other night, and remember well what a difficult task at times it was to keep awake.

Antelope and Egan canyons were given us as extremely dangerous places to pass through; but the United States soldiers kept the Indians so thoroughly occupied that we

escaped unmolested, reaching William Rogers' ranch in Ruby valley September 14th, and out of the way of the hostiles.

Mr. Rogers was in charge of a large tribe known as Shawshonee Indians, with headquarters in this valley. He gave us an exhibition of Indians shooting and capturing wild steers, giving the whole Indian camp a treat to an extra ration of fresh beef in honor of our visit. From here we pushed on, coming to another desert, about thirty-five miles in width. This we crossed during the night of Sept. 29th. Reaching the Carson river, we followed that some distance, when we came to Fort Churchill, a new outpost in Nevada, then being erected for protection of the mining settlements that were then fast developing. Virginia City at this time was only a cluster of cloth tents. Carson City could boast of several wooden structures one story in height. We went sight-seeing one evening in Carson City. Passing along the street, hearing strains of music, we went into a large room. At one side of the entrance was a well-stocked bar; across the rear end of the room was a platform on which the musicians were stationed; the remaining portion of the room was taken up with small tables, at which gamblers were seated trying their luck at cards. Knives and pistols were in evidence everywhere. While we were enjoying the music, some gambler drew his weapon to settle a dispute, when the order was instantly given: "All lights out; every one remain still; and don't shoot!" The proprietor soon quieted the parties, and lights were turned on. Thinking our services were not needed there any longer, we withdrew, that the gamblers might have the room to themselves. There was a dead man lying in front of that place in the morning.

Five days' travel from Carson City carried us over the Sierra Nevada mountains to Placerville, or Hangtown as it was sometimes called.

After toiling over a very dusty road two more days, we

came in sight of the city of Sacramento, the end of our carriage drive of the year 1860.

If you will bear with me a little longer, will close the entertainment by relating my experience in quicksand.

In November, 1861, California suffered severely from disastrous floods. There had been a heavy fall of snow in the mountains; in places it reached nearly as high as the top of the telegraph poles, and when the rainy season began floods of water went sweeping over the lowlands. The north fork of the American river rose fifty-five feet.

The city of Sacramento stands at the junction of the American and Sacramento rivers. Both these streams overflowed their banks. The country for miles around was covered like a great lake. The up-river steamboats made trips across the country, rescuing people from their houses, carrying them to high land for safety. One of these steamboats was caught when the water suddenly subsided, in a garden on the easterly side of Sacramento, and remained there for more than two-months. In portions of the city houses were lifted from their foundations, and some of the smaller ones capsized by the weight of their chimneys. Had this flood reached Sacramento in the night-time, there would have been great loss of life, but it appeared about seven o'clock in the morning, and warning was given as the water came rolling over the country, carrying fences and small outbuildings in its folds as it crept along. The writer was boarding at a hotel on K. street, rooming on the first floor. The warning soon came to move up onto the second floor. Hastily hanging my traveling bag with its contents on a big nail driven in the wall near the ceiling, I made my way up stairs, and taking a seat at the window watched the mad rushing waters as they swept down the street, carrying wagons, carts, henhouses, and almost every conceivable thing that would float. Small boats were at a premium. At first all attention was given to saving men, women and children; then the cattle and horses were looked after.

Having two horses in a stable near the hotel, I finally succeeded in hiring a boat to go to their rescue. Found them three feet deep in water. With a man to row, I, from the stern of the boat, led them out one at a time, swimming them around three blocks onto I street, where they could stand out of water. There I took care of them several days and nights, when they were removed out of the city and given better accommodations. It was not possible to go outside the house without a boat, so sent to San Francisco by steamer for lumber to make one twenty feet long, with three sets of row-locks, and soon had it ready for use, doing a vast amount of work with it transporting passengers and freight. The railroad trains could not come within two and a half or three miles of the city, and we occasionally ran our boat out to bring in passengers. On one of these trips we attempted to get further up the channel and save a portion of the walk for the passengers. The water was disappearing, three months having passed since the flood came, bringing with it the wash of innumerable mining camps, leaving the water thick with a sediment that appeared as a quicksand after the water had drained off. In the submerged houses this sediment left a deposit from one to five feet in depth on the first floors, and out in the open fields it filled up all the low spots, leaving to appearance a level or even surface.

The writer, in attempting to cross one of these level fields to reach the train of cars, chanced to pass over a low spot that had been filled with this quicksand. It was a perfect trap, for its surface looked dry and hard. Being supplied with long rubber boots, I tripped along, hurrying over a few soft places, thinking soon it would come harder, or I should reach solid ground. Finally exhausted in the struggle to extricate my feet from the mud, I stopped to rest, while the downward motion continued more rapidly after breaking through the crust. Finding, after going down two feet, that I was still settling, I began to struggle to lift

myself out, but the more I tried that, the faster I went down. At a house near by a woman appeared at the window. Seeing me, she spoke to her husband, who came to the door and asked how I came there. I told him, and asked how deep it was. He said nine feet; I suggested that he pull off boards from a fence near by and lay them out to me, that I might place my hand on them and lift myself out. After a feeble attempt, as the boards sank in with him, he abandoned the job, and went back into the house. By this time I was down to my waist, with the foundations still settling. My presence at the train had been missed, and my friend, who came in the boat with me, began to look for me, and came around the corner of this house just at the desirable moment. I at once called his attention to those boards on the fence, and in less time than it takes to tell it, he laid them out on the quicksand to me, and with one on each side to lift upon, I pulled myself out, not, however, without severe effort, from which strain it took many weeks to recover. In this experience I learned a lesson. Whenever you get into deep quicksand, straighten out upon your back and roll off. You may soil your clothes, but save your life.

358th Meeting.

Tuesday evening, April 2, 1901.

President Crane in the chair.

Others present: Messrs. Arnold, Bancroft, Dickinson, Davidson, Darling, Ely, C. B. Eaton, W. G. Forbes, Gould, Geer, C. G. Harrington, George Maynard, M. A. Maynard, H. G. Otis, Paine, Geo. M. Rice, Salisbury, C. E. Staples, Stiles, Saxe, L. A. Taylor, Williamson, Mrs. Barrett, Mrs. Chenoweth, Mrs. Darling, Miss May, Miss Agnes Waite, Miss A. M. White, and a long list of visitors.

Librarian reported following additions during the past month: 16 bound volumes, 31 pamphlets, 38 papers, and 11 miscellaneous articles.

Owen W. Mills, a teacher of Millbury, Mass., proposed by Charles A. Geer, was elected to active membership on recommendation of the Standing Committee on Nominations.

M. A. Maynard called attention to the proposed change in the By-Laws of the Society, recommended by the Executive Committee, stating that it meant a return to the more simple rules under which the Society had been governed during the greater portion of its existence. On motion of George Maynard it was voted to leave the matter in the hands of the Executive Committee with instructions to report at some future meeting. Ex-Representative George M. Rice was then introduced and read the following paper, entitled:

GOLD: ITS DISTRIBUTION, IDENTIFICATION, AND METALLURGY.

From the earliest times in the history of the world, gold above all other metals known to man has been the one most prized and sought for, and as a consequence, it has become so interwoven in the monetary systems of nations as a standard or measure of values that it is as necessary for our happiness and well-being as any other article that enters into our daily life.

It is presumable that, before civilization began, gold, although known, was not especially prized; for barbarous nations down to quite recent times having quantities of it in their possession were willing to part with it in exchange for almost any trifle; iron, in their estimation for instance, having a far greater value; as that metal could be put to practical uses in their domestic affairs, and was consequently greatly prized by such people, while gold was of no special use to them, except possibly for personal adornment.

We smile at what we call the innocence of the savages in preferring iron to gold; but they were right from their standpoint at least, their flint or shell knives and arrow heads being of little value as compared to the keen cutting qualities of properly made steel implements; and although iron ore was plentiful enough about them, they knew of no way to extract the metal, while gold could be had for the gathering.

We of to-day would find gold to be a very sorry substitute, indeed, for iron, as it is lacking in nearly all the qualities which have made that metal such a factor in civilization and the arts, as well as conserving to our daily wants in such a multiplicity of ways as it does.

Gold is one of the few metals that occur native, which fact, together with its bright yellow color and great weight,

were the peculiar characteristics which probably first attracted the attention of man.

It is common with us as a comparison, when we wish to express the idea of weight, to say that it is as heavy as lead, and a comparison of the weight of that metal with gold may not be uninteresting.

A cubic foot of lead weighs 709 pounds, while a similar cube of gold weighs 1,203 pounds, a difference of 494 pounds, so that if it required four men to carry the cube of lead up a flight of stairs, it would take seven men to perform the same service for the gold cube.

A cubic foot of gold, as before stated, weighs 1,203 pounds, or 17,543 75-100 ounces, Troy, which at the mint value of \$20.67 per ounce, amounts to \$361,613.81. A cubic foot of wrought iron weighs 480 pounds; its value at \$30.00 per ton would be \$7.20, showing the relative money value of equal bulks of the two metals.

Gold, contrary to the generally accepted idea, is one of the most widely distributed metals; it being found in all sections of the earth where the crystalline rocks prevail, although generally in minute quantities. In certain strata of rock, it is present in larger quantities than it is in others. Magnesian rocks seem to hold it in greater degree than other kinds, particularly that variety known as talcose slate, although it may be, and is found, in the upper and more recent series of rocks; instances being known where gold is mined successfully in limestone, King's Mountain mine in North Carolina being an example.

Quartz, in greater or less quantity, is invariably present in ores carrying gold. This quartz may be pure and crystalline, enclosing the gold, or mineralized in such way that quartz goes to make up one of the component parts of the ore, which is generally the case; quartz alone seldom carrying gold in paying quantities.

While something like 67 per cent. of the gold mined in

the world to-day is gained from ores proper, requiring a milling or smelting process to extract the metal, the major portion of the gold now in possession of the people of the world has been won from the sands and gravels, which are but the broken down and comminuted fragments of what were once solid rocks. That stanza in the old Missionary Hymn that says, "Where Afric's sunny fountains roll down their golden sands," is no figure of speech or poetic fancy, but a literal matter of fact. Gold is almost invariably present in river sands in some part of its course, although it may not occur in quantity sufficient to pay for working.

The speaker saw, in Denver, Col., in 1892, an amusing instance of mining river sands; under the guise of placer mining, claims had been located on Cherry creek, a branch of the South Platte river, which flows through a section of that city, and a regular system of dredging and gold saving apparatus installed; the object of the dredging, however, was not for the gold recovered, but the *sand* which was used for building purposes, and in this particular location was valuable. Enough gold was sometimes secured to pay part of the cost of the coal consumed under the boilers, and as the claims could be held under the United States Laws, and sufficient gold actually gained to meet the requirements of the Statutes, no one could molest them, although sand was the real value sought for, and not the gold, its value being insignificant in comparison.

The sands on our seacoasts contain gold, and in some places sea sands are worked for it; notably on the beaches of northern California, Oregon, Washington, and more recently Alaska. In New Zealand the workers in this variety of gold digging are called "beach combers," and are looked upon as an inferior class by other miners.

I will say in passing that tests made on sands collected from certain parts of Nantasket beach gave a value of 5 to 15 cents per ton in gold, which is not enough to make

them of economic importance, but interesting from a scientific standpoint.

It may be stated that all clays belonging to the older geological regions of the earth, contain gold, but seldom in sufficient quantities to pay for its extraction.

Tests have been made of the clays that are common in this vicinity. The clay thrown out in excavating for the cellar and foundations of the State Mutual Life Insurance Company's building in this city gave in one pound of dried clay free from gravel and sand 1-10 milligram of gold equal to 12.6 cents per ton, or, in other words, about 25 cents' worth of gold went out in each two-horse load of "hardpan" or clay excavated.

Sea water also contains gold, as well as other metals, in appreciable amount; it being determined by a long series of researches and experiments that each ton of sea water contains 5 milligrams of gold (about 1-13 part of a grain) and 20 milligrams of silver, having together a money value of a little more than 37-100 of a cent, an amount quite insignificant in itself, but stupendous when the total cubic miles of sea water are taken into consideration. For illustration, a cubic mile of sea water contains 147,197,952,000 cubic feet, which, at 64.3 pounds per foot, equals 9,464,828,313,600 pounds, or 4,732,414,156.8 tons, having in solution 760,752 77-100 ounces of gold, which at a valuation of \$20.67 per ounce, would amount to \$15,724,754.86, and of silver 3,043,011 13-100 ounces, which valued at 65 cents per ounce, would be \$1,977,957.22, or a total value for both metals of \$17,702,717.08, and given in round numbers more than 26 tons of gold, and 104 tons of silver are in each cubic mile of sea water.

It has been stated by scientists that if the floor of the ocean was a dead level, its waters would cover the entire surface of the earth to a depth of two miles. What a gold and what a silver mine, then, we have in the sea, if it were

possible to gather its glittering wealth into one solid mass. Insignificant, indeed, would be the accumulated wealth of gold and silver in the world in comparison. No practical way, however, has as yet been devised for its extraction, although frequently attempted.

Oftentimes people find what they believe to be gold, and great expectations are sometimes indulged in as a consequence thereof. A few simple tests that can be performed by any novice may be of service in such cases.

Two substances occur that are commonly mistaken for gold, namely, scales of yellow mica, and sulphuret of iron, sometimes called "fool's gold."

In testing the first substance the great weight of gold affords a ready and conclusive test. Place a quantity of the suspected matter in the bottom of a clear glass tumbler and fill with water; stir it vigorously and watch the order of the settling of its contents; if gold is present it will drop at once to the bottom of the glass and remain there; the gravel, sand or other heavy matters then fall, and lastly the scales of mica, which being lighter than any of the other minerals, are the last to sink to the bottom of the glass; their very light weight thus proving that they are not gold.

Several instances have occurred in our own immediate vicinity where yellow mica has occasioned short-lived "gold" excitements; notably in Spencer, Brookfield, and more recently in Dudley; this variety of mica occurring abundantly in the rocks common in the localities named.

If sulphuret of iron, or so-called "fool's gold," is the substance to be tested, then the extreme malleability of gold constitutes the test. Gold will flatten out by being pounded upon an anvil with a hammer, while sulphuret of iron—commonly called *pyrites*—by the same treatment will crumble to dust. Therefore, we place the suspected mineral on an anvil, or a flat stone, if nothing better is at hand, and

beat it with a hammer, or with another stone. If it flattens out and does not crumble, it is quite likely that you have gold, although *copper* sometimes occurs native and might, under some circumstances, be mistaken for gold in this test.

If the substance tested in this manner pulverizes easily you may be sure that it is not gold, although it may contain gold that is disguised or mineralized; in which case it could only be detected by an assay. If not satisfied fully by the crushing test, throw a portion of the powder into a fire; if it burns with the characteristic blue flame of sulphur, and gives off the familiar sulphurous odor, the test is a complete demonstration that the substance is not gold. Other tests might be mentioned, such as boiling in nitric acid; dissolving in aqua-regia, chlorine water, etc.; all of which require some experience in such matters and will not be dwelt upon.

All native gold contains a percentage of silver which is sometimes present in such quantity as to lower the value to \$12.00 or less per ounce. \$16.00 to \$18.00, however, is the average value of gulch or placer gold; the value varies to a considerable extent according to the location where the metal is found. In some districts as high as \$20.00 per ounce is a fair value, and in other districts as low a value as \$10.00, or less.

Alluvial gold is won by washing the sands and gravels of ancient or present river beds; which may be by panning, cradling, ground sluicing, sluicing proper, or hydraulicking. The typical California miner of '49 did his mining with the pick and shovel, and washed out his gold with a pan, which was very similar to an ordinary milk-pan, only it was made of sheet iron and not tinned; having found what he calls "pay gravel," he fills his pan and carries it either to the river bank or a pool of water. Placing the pan and its contents just under the water he violently agitates it, hold-

ing the pan at an acute angle, until the light mud and sand are floated off; he then throws out with his fingers all the coarse stones, and by a peculiar working of the pan under water, floats off all the worthless matter except a quantity of black sand, which is invariably associated with gold, and being very heavy collects with it in the angle of the pan. This black sand is practically magnetic oxide of iron, which is separated from the gold dust with a hand magnet. The coarse gold is taken out and the fine gold subsequently collected by quicksilver. This manner of working is very slow and laborious. Our typical miner disdains anything less than "ounce diggings"; that is, his day's labor must yield him an ounce of gold.

The cradle is a machine very much like the old wooden affairs in which our grandfathers were rocked, except that it has what would be called a coal sieve at the upper end, underneath which was an apron set at an angle so as to deflect the water and its burden of sand to the upper part of the floor of the cradle. Cleats are nailed across the bottom to retain the gold, or mercury. The cradle is set at a slight grade and the gravel shoveled into the sieve, and water poured in gradually from a dipper; the cradle meanwhile being rocked back and forth. This process is continued until all the fine material has been washed through the sieve, which retains the coarse stones, etc., which are then thrown out. The gold is collected from the pockets formed by the cleats on the bottom of the cradle, or as amalgam, if quicksilver is used. This cradle process requires two or more persons to keep in continual operation, but will work many times the amount of gravel that it is possible to work by panning.

"Sluicing" consists in shoveling the gravel into a trough constructed of boards, usually about two feet wide on the bottom, with sides about ten inches high, and made in sections some ten feet long. In the bottom of this sluice are constructed what are known as "riffles," which comprise a

grating made by placing two-inch strips of board on edge lengthwise of the sluice, leaving a space of about an inch between each strip. These riffles are framed together by transverse bars so that they can be easily removed when a "clean-up" is made. The sluice is set at a sufficient grade so that when a stream of water is led into it, stones as large as a man's head are readily washed through. The sluice is built of any desired length, and any number of men may shovel gravel into it, providing the supply of water is sufficient to wash the gravel and keep the sluice clear of tailings. The gold settles down into the spaces between the slats, and a clean-up is made by removing the riffles and panning or cradling out the gold from the sand; mercury is sometimes used in the lower run of boxes to gather the fine gold.

Ground sluicing is a similar process, except that the ground itself makes the sides and "bed rock" the floor and riffles of the sluice.

Hydraulicking is that process where a stream of water is piped under heavy pressure and discharged onto the gravel deposit, which is moved by the force of the water alone. Ditches, which are constructed to convey the water, are sometimes many miles in length, and find their level high on the sides of the hills at the place where used; a head of two to five hundred feet not being uncommon. The water is led down the hill-side through wrought-iron pipes and discharged from a nozzle that is so constructed and mounted that it can be deflected, or moved in any direction, and controlled by one man. The force of the water issuing under high pressure through a four-inch nozzle is tremendous. The gravel banks melt away under this torrent like snow beneath a summer sun, even the very hills themselves disappearing in time under its terrific force. The gold is saved in a huge sluice of great length, which is paved with cobble-stones, and which serves the same purpose as the riffles in the smaller sluices before mentioned. By this hy-

draulic process, large areas of land can be worked, and poor gravel made to give a substantial profit. An exceptional case that may be mentioned, is one where gravel yielding but three cents per cubic yard gave a dividend to the company operating the mine; ten cents per cubic yard, however, is generally considered poor ground.

This process is not at present in general use in California, because of a law enacted against it, as the tailings or slickings made by washing down the immense areas of gravel were fast filling up the river beds, covering and destroying thousands of acres of farm lands in the valleys below the mines, and making general havoc throughout the state.

Gold is also mined from the old river beds which occur on the sides of the present valleys. This gravel is extracted by "drifting" in a manner similar to that of coal mining, and the gold washed out in a sluice; or if "cemented," as it sometimes is, crushed and amalgamated in a mill.

Much gold is now being recovered by dredging machines working in river beds and areas wholly or partly covered by water. These dredges are fitted with machinery for washing the material brought up by the dredging buckets and saving the gold. This form of gold mining is increasing fast, as these machines have been so perfected that they have become very efficient, and pay large dividends on the capital invested if located on proper ground.

Gold ore proper is quartz, which may or may not contain other minerals, and is found in veins or leads inclosed in other rocks. What are known as "contact veins" are usually considered the best.

A contact vein is one that is bedded between two kinds of rock, as, for instance, slate on the hanging wall and granite on the under-lay or foot wall. The gold is not distributed equally through a vein, but usually follows well-defined chutes or chimneys, which are sometimes so extensive as to be called "bonanzas," but outside of which the ore is too poor to pay for working. If the gold contained

in the ore is "free," that is, capable of being amalgamated by mercury, it is treated by what is known as the mill process. In this process, the ore is first coarsely crushed in a rock breaker, the largest pieces of which are about the size of stove coal, and then fed into a stamp mill which contains five ponderous stamps, or pestles, in each battery or set. These stamps weigh from 700 to 1,000 pounds each, and are lifted by cams at the rate of 80 or more drops per minute. They fall a distance of about 8 inches. Each stamp drops on a die which is contained in a coffer or mortar, the mortar having one or more open sides, in which screens or gratings are placed. The screens are of a size of mesh suitable for the ore under treatment, usually about 40, or 1,600 holes per square inch. A stream of water is led into the mortar which drives the ore, when crushed fine enough, through the screen, by the splash produced by the fall of the stamp. Outside the mortar, a copper apron, or series of plates are placed, which are amalgamated or coated with quicksilver, and over which the crushed ore, together with the water, is conducted. The gold, by reason of its weight, sinks onto the plates; combines with the mercury to form an amalgam, and is retained by them.

Other appliances are used to trap the gold, a percentage of which escapes, however, in the tailings or waste. After a certain amount of ore has been crushed in the mill, depending on its richness, the stamps are hung up, the amalgam scraped off the plates, the plates re-coated with mercury, and the crushing, etc., resumed as before. The amalgam is subsequently distilled in an iron retort to recover the mercury, the gold being left in the retort as a spongy mass, which is removed, melted down in crucibles with fluxes, run into bars, and is then ready for market.

If the ore, being milled, contains a mixture of sulphurets, which may be of iron, copper, lead or other metal, the ore is crushed and amalgamated as before, and the sulphurets contained in the tailings concentrated, that is, separated

from the worthless rock by special machinery constructed for that purpose. The concentrates are either treated on the spot by chlorination, or sold to smelting works. These concentrates are many times richer than the original ore, but require a special treatment to extract the gold.

If treated by chlorination the concentrates are dried and then thrown on the bed of a roasting furnace and exposed to the combined action of heat and air until all the sulphur is burnt off, and the metals oxidized or roasted dead. After it has cooled it is then slightly moistened with water and shoveled into tubs capable of holding three tons or more. These tubs are fitted with covers which are luted on with a dough made of wheat flour, and are furnished with an inlet at the bottom and an outlet through the cover. Chlorine gas is then generated in a retort and conducted up through the ore in the tub, until the chlorine shows by test at the outlet, which is then closed and the ore allowed to lie in the gas for forty-eight hours, by which time the gold is converted into a chloride, soluble in water. The covers are then removed and the gold leached out by running water through the ore in the tubs, then precipitated from the water by a solution of sulphate of iron, or copperas, which throws down the gold as a brown powder or precipitate. This is collected, washed, melted down in crucibles and cast into bars; these several operations constituting what is known as the "Plattner process," first and for many years used in this country in California.

In a later and more improved variation of this process, the roasted ore is charged into a lead-lined barrel, together with a quantity of chloride of lime or bleaching powder. Water is added in sufficient quantity to form a thin pulp, together with enough sulphuric acid to more than decompose the bleaching powder. The barrel is quickly closed up and revolved for three or four hours, when the gold will be found dissolved as in the first process. The contents of

the barrel are then discharged onto a filter bed and the gold leached out and precipitated as before.

Another method, known as the cyanide process, has lately come into extensive use in many localities, particularly for the extraction of the gold and silver still remaining in the tailings from quartz mills. Briefly stated, in this process the tailings are shoveled into iron tanks holding ten tons and upwards, and the gold and silver leached out by a solution of cyanide of potassium containing about .5 of one per cent. or less of that salt, the leach being effected in a manner similar to that used by our grandmothers in leaching ashes. The gold and silver are then separated by running the leach solution over zinc shavings, on which it precipitates; the leach liquor being brought up to the proper strength by adding fresh portions of the cyanide salt, and in this manner used over indefinitely. Large amounts of gold and silver are now recovered by this process from material formerly considered worthless.

When gold occurs in combination with massive copper, or lead ore, it is treated by smelting, usually in blast furnaces. The gold and silver follow the copper or lead in either case. The method employed to separate the gold and silver from the copper is known as the electrolytic process, which not only affords chemically pure copper, now so imperative for use in electrical appliances, but also saves every atom of precious metal present in the crude copper.

This process consists in subjecting impure copper, cast in the form of plates, to the action of a current of electricity, the plates forming the anodes, which are immersed in an acid solution of sulphate of copper, and sheets of pure copper forming the cathodes, which are arranged in pairs in a series of vats. On passing a current of electricity of proper tension through this arrangement, the copper in the anode plates is gradually dissolved and is immediately deposited on the cathode plates. The gold, silver, etc., which

in this instance are impurities, are not soluble in the menstrum employed, and fall to the bottom of the vat as fine mud or precipitate, which is gathered from time to time and afterwards refined. Large amounts of precious metals are gained in this way that formerly went to waste.

If the ore is smelted with lead ores, so-called "base bullion" is formed, which is metallic lead alloyed with the gold, silver and other metals occurring in the ore, and reduced by the furnace process.

This lead is melted down in huge kettles holding ten tons or more, and when fluid a certain percentage of pure zinc is added, the metal being thereafter thoroughly agitated or stirred up. The affinity of the gold and silver for zinc is greater than it is for lead when both are in a molten condition, consequently they forsake the lead to combine with the zinc; and when the fluid metal is allowed to stand and cool, the zinc being a lighter metal than lead rises on the surface, and in cooling forms a crust or scum which contains practically all the gold and silver. This crust is skimmed off from the still fluid lead and subjected to a special treatment to recover the contained metals. These crusts, however, contain a large percentage of lead mixed with the zinc and other metals, requiring a further process to separate the gold and silver. The lead remaining in the kettle is separately refined and cast into pigs for market. Cupellation is a final process, where lead forms the major part of an alloy. This process is, briefly, melting and then oxidizing and slagging off the lead in the form of litharge on the hearth of a peculiarly constructed reverberatory furnace, until nothing but gold and silver remains on the test or hearth, and is the process by which the gold and silver are refined that are recovered by the zinc process mentioned in the preceding paragraph, the zinc being distilled off from the alloy metals previous to cupellation.

Thus briefly have been outlined the processes most in use in the metallurgy of gold; their variations are endless,

and are multiplying daily; by their application more gold is being won to-day than ever before in the history of the world, and as a consequence mankind is advancing rapidly in every department of human knowledge, and, let us hope, in those attributes which make him more Godlike and better fitted for the life to come hereafter.

Mr. Rice placed on exhibition a fine collection of samples of ores and metals to illustrate points in his paper, among which were samples from the Old Silver Mine in Worcester, which he said was opened about the year 1750, and re-opened fifteen years ago, when the ore yielded about twenty-five dollars per ton of various metals. Considerable interest in the subject was shown by the various questions presented to and answered by Mr. Rice.

Hon. Stephen Salisbury was then introduced and read the following papers prepared by Mrs. E. O. P. Sturgis, which were listened to with great interest, Mrs. Sturgis having furnished the Society with several valuable historical reminiscences.

OLD WORCESTER. I.

The Worcester of my young days bore little resemblance to the city of to-day, though the natural features are the same, but buildings have covered the ground so entirely, that the marked lines of the hills are almost obliterated. It can hardly be called "The City of the Seven Hills," but it is almost entirely built on hills, or their sides. Take Lincoln street, for instance, it being laid out on the western declivity of "Millstone Hill," the water-shed rising high up on the east, and the hill inclining gradually down to Lincoln square on the south, while on the western slope the descent

is much steeper, making a sharp incline before reaching the valley. Main street, too, is laid out on the side of a hill, which begins at Lincoln square and rises up, by a sharp ascent towards the west, while on the eastern declivity the land descends to the valley, and from thence rising up again towards the east. At the northern and southern extremities of Main street were two small hills, or spurs of the main elevation, both covered with buildings. The northern one is called "Court Hill" and a flight of stone steps as well as a steep roadway led to the lower Main street, on the north, while on the south side, the descent was very gradual, until it joined Main street proper. On the southern eminence there were no steps, but the ascent and decline were similar to the northern, or Court Hill. On both hills an iron fence protected the pedestrian from falling into the street. Main street, as I first recall it, practically began and ended between "The Old South Meeting House" and the "Salisbury Mansion." The street was broad and shaded by fine old elm trees, and on the western side was lined with houses, some having gardens on the front and some in the rear of them. A few shops were interspersed with the houses, while two meeting houses, the "Unitarian" and the "Orthodox," with the old school-house and the "Court House," well filled up that side of the street. The eastern side also had houses on it, and most of them had large gardens in the rear, for the lay of the land was such that no other arrangement was possible. All the taverns of the town were on this side, and there were more shops than on the opposite one. The old "Town Hall" and the "Old South Meeting House" nearly filled up the space on the western end of the common. Let us recall some of the old landmarks. Those whose knowledge of the "Salisbury Mansion" is derived from its present aspect and surroundings in the midst of steam and electric cars, can hardly realize what its appearance was in the old days. This stately and beautiful house was built in 1770,

by Mr. Stephen Salisbury, the grandfather of the present owner, and occupied by him until his death, in 1829, and subsequently by his widow and their only child, the late Stephen Salisbury. The only occupant of the house after the marriage of her son was "Madam Salisbury," as she was always styled, whom I frequently visited; and I recall distinctly the handsome old lady in the southwest parlor, which was her favorite room, and where in winter was always burning a bright wood fire, and probably this house was the last one in Worcester where the man servant would bring in the logs of wood in what was called a "leather apron," a broad strip of leather with handles at each end. Mrs. Salisbury was Miss Elizabeth Tuckerman, a member of the very prominent family of that name in Boston, and sister of Dr. Joseph Tuckerman, the noted philanthropist, and the pioneer of the "Home Missionary" movement, which has done so much to ameliorate the condition of the poor in large cities. The house faced up Main street and was always bathed in sunshine, and an unobstructed view was had of its whole length. There was a lawn in front of the house divided by a stone walk, on both sides of which were shrubs and trees. On the east side of the house were parlors, from the windows of which one looked out on a strip of lawn, on which were shrubs, and over Salisbury's brook, the depth and width of which were regulated by the abundance of water, or the reverse, in the ponds in the northern part of the town; to Lincoln street, a green field intervening between the brook and the street. All the surroundings were peaceful and quiet, and the only sound heard was the lapping of the water against the stone wall, which prevented the ground from being washed away. On the western side of the house the view was of green fields, for the Antiquarian Hall was not yet built on the site where it now is, and the lawn of Mr. Stephen Salisbury's house reached down to the roadside. There was not much passing on the west side of the house, for there

were only a few scattered farms beyond until after 1836, and then when the Rural Cemetery was completed, long lines of carriages passed from time to time up and down this roadway bearing often friends and acquaintances of the occupant of this house, and always leaving behind them one of their number to rest with their kindred in those sacred precincts. Finally, the friends and kindred of Madam Salisbury followed her to her last resting place, and this ancient house no longer sheltered the descendants of its founder.

While so near it, we will take a look at the old jail on the opposite side of Lincoln square. It was a tall and most forbidding looking building of stone, the windows being barred with iron. In it some of the English prisoners were confined during the War of 1812. The saddest event connected with this old jail* was the trial and execution of Mrs. Spooner, more than one hundred years ago. She was the daughter of Brigadier-General Ruggles of Hardwick, one of the most prominent men in the county of Worcester, and one of the most noted of the American Royalists. This lady did not murder her husband herself, but she hired others to put him down a well, and in consequence she was arrested, brought to Worcester, and very possibly tried in the old historic "Court House"† which has so recently renewed its youth, and was condemned to be hung. She claimed that another life was bound up with hers, but the authorities would not listen to her, so she went to her doom dressed in a rich brocade dress, and sitting in an old-

* Mrs. Spooner and her associates in crime were incarcerated in the old wooden jail on the north side of Lincoln square, near the entrance of Lincoln street, the old stone jail not having been erected till 1788, ten years after the trial, and which stood on the south side of Lincoln square.

† By common tradition, corroborated by the testimony of persons present, the trial was held in the "Old South Church." The session of the court was called to be held in the court house, now the Trumbull mansion, but for lack of room the trial was adjourned to the church, there being great interest manifested in the trial.

fashioned chaise. She met her fate on "Mill Stone Hill,"* and at the post-mortem examination it was discovered that her story was true and that the Commonwealth of Massachusetts had murdered an innocent child, a foul blot on its good name. This lady was buried on "Mill Stone Hill," in the Green Woods. All the details of this crime may be read among "The State Trials of Massachusetts." Although women have committed murder since the date of this unfortunate affair, none, perhaps on account of it, have had capital punishment meted out for the crime, and it seems to have become an unwritten law that no woman shall again be hung in the "Old Bay State."

On the southern corner of Main and School streets there stood, in the early part of the nineteenth century, a hardware shop, which was bought by Dr. Wm. Paine, about 1818, I think, for I can't fix the exact date, and was fitted up by him as a dwelling place for his daughter, Mrs. Harriet Paine Rose, making the entrance on School street. Mrs. Rose had returned from the Island of Antigua some time previously to Worcester, not because it was her native town, for she had been born in one of the numerous places her parents had resided in during Dr. Paine's banishment from the United States, but on account of wishing to be near her father and mother in their declining years. Her husband was Mr. Joseph Rose, an Englishman, and a West Indian planter, and she had resided for many years in Antigua. Her family consisted of herself and two daughters, the oldest, Harriet Paine Rose, a young lady in society who later became Mrs. John C. Lee of Salem, and a little girl of ten years of age, named Josephine, who married Dr. George Chandler of Worcester, many years later. A slave woman named Mary, who had followed her mistress from

* On the testimony of witnesses who were present, the place of execution was on a knoll which occupied the site of the present Union Station, being on the east side of the old Worcester and Grafton road.

the "Rose Plantation," also made a part of the household. Miss Rachel Rose, a sister of Mr. Rose, also formed part of the family and was a very important member of it, for she was its staff and stay. This lady was much esteemed by her friends, being a kind-hearted woman, having much energy of character, and a large share of common sense. Having been born and bred in England, she found it difficult at times to adapt herself to the free and easy ways of New England life and was much annoyed that her young niece should be sent to school to mix with children of all ranks in life, and urged upon the child not to play with her schoolmates out of school. But the little English child with Yankee air had imbibed Yankee notions of independence, and announced to her scandalized aunt "that if the children were good enough to go to school with, they were good enough to play with out of school, and that she should continue to do so." In a letter from Miss Rose to one of her friends, describing this incident, she writes: "There has been a coolness between me and Josephine ever since." The child, however, went on her way rejoicing, and did not then stop to inquire into the pedigree of her schoolmates, no more than she did into those of her friends of later life, or of any one on whom she wished to confer a kindness. Miss Rose also feared the little girl might contract some disease at school, but she writes, "Dr. Paine tells me not to worry, for Josephine never stops still long enough to catch anything." Miss Rose in one of her letters writes, "The good doctor has spent a great deal of money on the house, and we call it 'The Arsenal,'" and indeed she dates many of her letters with that title. Miss Harriet Rose owned one of the four pianos in the village of Worcester, and as her aunt was an accomplished performer on the tambourine, there was no lack of music for the young friends of the household when they wished to dance.

A short distance below Mrs. Rose's house on School street, on the same side of the way, was what must have

been a part of an old meeting-house or chapel, for some few pews were left in the room and in it a Mrs., or Miss, Collins taught an infant school, which I attended at the mature age of two years, to begin my education.

Dr. Paine's house, my home, was, I suppose, considered too far out of town in those days for me to be sent from there, so I lived with my aunt, Mrs. Rose, and "Aunt Rachel," as Miss Rose was called, took me to and from school each day. I remember the school-mistress perfectly, and that, with other children, I used to be put to sleep every afternoon in one of the old pews. On the northern corner of Main and Central streets, there was a white wooden house, but of this I can only repeat what I have been told, at one time the home of Hon. Francis Blake, one of the most eminent lawyers in Massachusetts, and considered the handsomest man of his day. He married Miss Eliza Augusta Chandler, a granddaughter of "The Honest Refugee," as John Chandler was called, and lived here with his large family of children, among whom were the late Mrs. G. T. Rice, H. G. O. and Commodore George Blake. At a later date I recall Dr. and Mrs. Oliver H. Blood living here. The house is, I am told, still standing, having been moved down to Central street. The "Waldo Mansion" was the most imposing house on the eastern side of Main street, being a large, double house,* built of brick, and painted white, and stood quite near the street, an iron fence dividing the narrow strip of grass in front of the portico from the sidewalk. The occupants of this dwelling, as I recall them, were Daniel Waldo and his three maiden sisters, the Misses Betsey, Rebecca and Sally Waldo. There was another sister, Martha, who had married Hon. Levi Lincoln, the father of the late gentleman of that name, who had died in 1828. Their parents were Daniel Waldo and Rebecca Salisbury Waldo, the latter a sister of the first

* It was not a double house, but had a single, spacious front door on Main street.

Stephen of that name. Some people may recall Daniel Waldo, Jr., the carefully dressed, alert old gentleman with snow white hair, as he walked briskly down Main street of a morning on his way to his office in Waldo block. The Misses Waldo I used to see, as I passed the house, sitting at work by the windows of their southwest parlor, but I chiefly recall these dainty little ladies as I have met them of a summer's afternoon, walking down Main street, on their way to take tea with their aunt, Madam Salisbury. The three sisters walked side by side, all dressed exactly alike in dove colored silk dresses, and each wearing a calash over their caps. Does anyone in these days know what a calash is? It was an outdoor covering for the head, generally made of green silk, after the pattern of the hood of an old time bellows topped chaise, with a small cape behind, and kept in place while in use, by a bridle, so called, or piece of ribbon fastened on each side of the frame in front. The wearer held on to the bridle while it was in use, but when that was let go, the calash collapsed and folded up flat. They were universally worn by ladies who wore caps and turbans, when they went visiting in a social way, and were thereby saved the trouble of taking their head dresses with them to be put on at the house where they were bound. The last one of the Waldo ladies died, I believe, some time in the forties. The last person in Worcester to wear a turban was Mrs. Rose, though I have been told some of the young people adopted the fashion for evening parties, one lady having one made of India muslin, as delicate a fabric as a spider's web. A friend copied her example, put the same quantity of material into stiff book-muslin, and with this monstrosity on her head appeared at an evening gathering. Her husband after gazing at her spellbound for some time, crossed the room, and in the presence of those assembled, said, calling her by name: "— you look like the devil."

Before 1840, or perhaps a little earlier, there were very

few private carriages in Worcester, and I can only recall three. Mr. Daniel Waldo and his nephew, Gov. Lincoln, and Madam Salisbury owned them, and the ladies of these families drove in them to church and to make visits to their friends. These carriages would not be considered handsome equipages now, but they were each drawn by a pair of horses, and were quite up to the standard of the day. A coachman in livery was unknown, and the driver was generally "the man of all work," and the horses could not always be spared for visiting, if there was hay waiting to be attended to or the man was needed for any especial exigency connected with household affairs. Many people had one horse vehicles, and the old-fashioned bellows top chaise was not entirely obsolete, while people who lived in the outskirts of the town came into the centre in their comfortable farm wagons with two seats. Writing of one horse carriages reminds me of a story connected with one. A lady from out of town had married a gentleman in Worcester, to be supposed for affection, but it was thought by outsiders, for other considerations, and one was a handsome, new carryall. She was calling at a house one day, with an aged relative of her husband's, and on leaving rushed out and entered the carriage, leaving her companion to get in as she could. The family on whom the call had been made commented on this breach of good manners, but the master of the house said, "She married the carriage, why shouldn't she get in first?"—emphasizing his remark by some words beginning with the letter "D," not commonly used in polite society.

Very near the corner of Main and Front streets were some low buildings, painted white, and from the front of one of them projected a barber's pole, indicating that one of that profession was in possession. Mr. John Weiss had served his apprenticeship with "Old Galoupe," as he was called, a famous barber in Boston in former days; this shop was frequented on Sunday mornings by the

gentlemen of that day to be shaved, and to hear the news. He had married his master's daughter, Miss Galoupe, and had moved to Worcester in 1829, to set up a business of his own. He had two sons—John, the eldest, became a noted Unitarian minister, though he will chiefly be remembered as a leader and exponent of the doctrines of "The Free Religious Association," whose members met on Sunday afternoons to voice their opinions, which did not always meet with the approbation of their more conservative brethren in Boston, and from whose pulpits they would not be allowed to promulgate them. I often attended these Sunday afternoon gatherings and enjoyed the brilliant discourses of John Weiss, though I could not agree with his teachings. He was also an author of some repute, having written a "Life of Theodore Parker."

The "United States Hotel" stood on the corner of Main and Front streets, the latter street being a rural thoroughfare, with few buildings on it, and they facing the common, a shady, grass-covered piece of ground, on which in those days there was no railway. Mr. and Mrs. Rejoice Newton occupied the first house, a large, double wooden building, with their son and daughter, and three nieces. In the middle of the street, which extended to a cross street beyond, the name of which I can't recall, was a small brick house painted white, and here lived Mrs. Rose. Why she had moved from School street, I have no means of knowing, and she could only have occupied this house for a short time, as she left it soon after Dr. Paine's death in 1833, for Salem, where she died in 1862. On the corner of Front street and the one running at right angles with it, there stood a large wooden house painted white, with a barn and outbuildings in the rear. Here lived Mr. and Mrs. Abijah Bigelow, with one son and four daughters, one of the old Worcester families, and one much honored and respected. The garden on the west side of the house extended nearly to Mrs. Rose's, a high wooden fence dividing it from the sidewalk. The son

was supposed to belong to that religious sect called "Millerites or Second Adventists." One seldom hears of these people now, but fifty or sixty years ago there was a large following of them in New England and many in the town and county of Worcester. Led on by false prophets these misguided people sold and disposed in various ways of all their belongings and dressed in their white robes idled away their time, watching for signs and portents and waiting patiently for the expected coming of the Lord to take them up to the heavens. When this craze came to an end, as it did in time, these poor folks found themselves ruined, and in middle life had to begin all over again to regain what they had lost by their foolishness. The ridgepole of a barn was a favorite place on which they perched, where dressed in their ascension robes they would remain for hours, waiting and watching for the opening of the heavens, and for the coming of the chariot which was to convey them upwards. After a little, they became discouraged and when a number of them had fallen from high places, and broken their legs they concluded to descend to terra firma, and go to work, and to no longer lead idle, foolish lives, but to wait until they were called, and to show by their works that they were fit to enter the heavenly kingdom. In connection with the Second Adventists I am reminded of an anecdote of Rev. Dr. Francis Parkman, whose house in Boston at one period stood where, from the rear, he overlooked the grounds of an establishment of these deluded people. One day a minister from the country came to visit his friend, and his attention being called to these white-robed men and women, as they disported themselves in the grounds, wandering about, with no end and aim, he remarked after gazing at them for some time, "Brother Parkman, I should say those people were fools." "I call them d—— fools," said the genial little doctor.

OLD WORCESTER. II.

The "old Nazro house," as it was called, stood on the southern corner of Main and Pleasant streets.

It was a large wooden house, painted a dark brown, and set far back from the street in the middle of a yard, a walk leading up to it from the sidewalk, on each side of which was a lawn. An immense elm tree stood in one corner of the yard, one of the many which added so much in former days to the beauty of Worcester streets.

As I remember the house, Mr. and Mrs. Samuel Ward occupied it, with a family of children, the eldest being Miss Sarah Ward, who married the late Harrison Gray Otis Blake, the son of the Hon. Francis Blake. Mrs. Ward was the daughter of Major Charles Chandler, and granddaughter of "the Honest Refugee," John Chandler.

She inherited a large tract of land from her father's estate, reaching from Pleasant street to the present May street. On the northern corner of Pleasant street were the spacious grounds of Judge Nathaniel Paine, reaching a long way up Pleasant street, then a high hill. The house stood almost directly on the street, a common wooden one, painted white, there being nothing particularly attractive about it, either inside or out.

The pleasantest room in the house was a long, narrow one, entered from the front entry and running the whole width of the house, with a large glass window on the southern side, in which the sun lay all day long. This room was the living as well as the dining-room, and constantly occupied by the family, which consisted, as I recall it, of Judge Paine, his twin sons, Charles and Henry, and one daughter, Miss Sarah Paine.*

From this room, one entered the kitchen, and from there went out on to a broad, sunny piazza, close to which was

* Gardiner, another son of Judge Paine, was married and resided on Church street.

an old-time well, on the curb-stone of which in summer time there always stood a monthly rosebush, much treasured by the family, it having belonged to Mrs. Paine, who died in 1830.

Just on the corner of Pleasant street stood Judge Paine's law-office, where he married couples and attended to any legal matters in which he was interested.

I knew this house very well as a child, for I went to school in that part of the town, and my own home being too distant for me to go there at noon time, I always dined on week days with my great uncle. There was one most interesting ghost story connected with this house, and the most authentic one I ever heard of. Mr. Anthony Paine, a son of Judge Paine, who died in 1819, was lying very ill in his father's house and not expected to live from day to day.

One morning, quite early, Mr. John Bancroft, a son of Dr. Aaron Bancroft, and a most intimate friend of Mr. Paine's, saw the curtains at the foot of his bed drawn aside, and there stood his friend Anthony. Mr. Bancroft spoke to him, but he vanished at once.

So soon as the latter was dressed he hastened down stairs and reported to the family what he had seen, and a messenger was at once dispatched to Judge Paine's house, who quickly returned with the news that Mr. Paine had expired a short time previous to his being seen at Dr. Bancroft's.

Next to the Paine house on the north was a brick shop, in which dry goods were sold, and over it was Mr. Henry Paine's office, access to which was gained by a staircase on the outside of the building. This office was quite a resort of the young men of that day, who gathered there of an afternoon to hear and report the news of the day. Before my time, Mr. Samuel Ward had a shop on this spot, a wooden building, and I read in an old letter that he was always ready to take letters to and from Boston, to

bring samples of goods for the ladies of that day, and to do any errands to oblige them during his visits to the city.

Between Pearl and Elm streets stood a large, white, wooden house in the middle of a lawn, and not very far back from the street, all the surroundings being kept in the most perfect order and condition.

Here lived Mr. Calvin Willard, high sheriff of the county of Worcester. It is not many years since he passed away, so many people must recall him, but perhaps not when he was in office and as he appeared walking down Main street, preceding the judges on their way to court, dressed in his official costume of blue cloth coat with brass buttons, buff vest, high silk hat, with a cockade on the side of it, and holding a cane. Seemingly, the very embodiment of the majesty of the law.

It used to be said he once hung a man, and later kept the rope in the garret of his house, where in consequence no one dared go after dark.

Mr. Willard was very neat in his dress and person, precise in his conversation, a good man and much respected in the town, belonging to a past generation, where dignified and courteous manners prevailed more than they do at the present day. I believe the house was finally moved round into Pearl street, to make room for the present brick block now standing on its site.

I must ask my hearers now to stop for a few moments on the sidewalk in front of the "Lincoln House," while I read an extract from the memoirs of Dr. Pliny Earle.

He had, with his mother, Mrs. Patience Earle, come down from the Leicester hill to catch a sight, if he could, of "Lafayette," having heard he was to be in Worcester on such a date. He writes, "When I visited Worcester, where the Governor of Massachusetts then lived, I went to see Lafayette and shook hands with him in company with hundreds of others, as he stood in the gateway in front of the

residence of Gov. Levi Lincoln, a mansion afterward enlarged and converted into a hotel, "the Lincoln House."

The old "Maccarty house" stood just north of Governor Lincoln's, Maple street being the dividing line.

I have no recollection of the interior, but the house itself was a fine old colonial mansion, set high up on the hillside, the access to which was gained by steps and terraces from the street, and on the latter of which were planted shrubs and flowers.

In an old letter, dated 1822, I read that Mrs. Maccarty had recently died, and her husband felt her death extremely, for he said, "He never expected to find any one again who would put down his winter's pork to suit him as she had done."

Mr. Nathaniel Maccarty must have survived his wife many years, for I recall the auction held in the house after his death, when many handsome pieces of furniture were sold. The house was finally moved away, and I learn is still standing in the vicinity of its former location.

Brinley block was erected on the site of the Maccarty house, a fine building for its day.

The Citizens' Bank occupied the southwest end, while the remaining front space was occupied with shops. The second floor of the building was chiefly used for lawyers' offices, the sign-boards of the occupants covering a large part of the front of the building.

The main feature of the third story was Brinley Hall, a beautiful room and one admirably adapted for the purposes for which it was used.

I first recollect it when Mr. Weaver, the fashionable dancing master of his day, had his dancing classes here. The first ball I attended there was on the 4th of March, 1841, to celebrate the inauguration of President Harrison, the grandfather of one of the late presidents and occupants of the White House. This occasion was probably the last when the so-called old people of that day joined in the

dance, and I recall perfectly seeing the late F. W. Paine and Mrs. John Davis, Mr. S. M. Burnside and Mrs. Paine, Mr. G. F. Rice and his partner, and others too numerous to mention, in a contra-dance, and all footing it as bravely as any of the young people on the floor. In the lately published diary of Mr. C. C. Baldwin, I note that he says "Mr. Burnside preferred contra-dances to cotillions."

It would be an easier task to describe what did not take place in Brinley Hall than what did. The cattle-show balls, as well as military ones, were held here. Giants and dwarfs and dancing dogs were exhibited here. Political and temperance meetings, public dinners, private theatricals, fairs, social gatherings and lyceum lectures were held here.

Here Signor Blitz performed his wonderful feats. Here Russell, the noted singer of his day, who has recently died, sung to admiring audiences, and nere R. W. Emerson lectured to the delight of those who heard and understood him. When the Church of the Second Parish was burned, the society worshiped there until the new house was built. The last time I was in the hall was to hear Lola Montez give an account of her experiences, now more than thirty years since.

I remember well when the "Citizens' Bank" was inaugurated, and the great sheets of bills my father used to bring home for his family to cut apart, and what a sensation it gave one of handling vast sums of money, though these bills in their unsigned state were perfectly worthless. This bank, on the corner of Main and Maple streets, was a capital place to see and note what was going on in Worcester, for everything and everybody were sure to pass there during some part of the day if they were out, and it used to be said that the frequenters of the bank appreciated this vantage ground, and that all the conversation of the gentlemen who occupied the chairs in the large window was not always confined to financial matters.

I never hear of the "Citizens' Bank" without being reminded of an amusing incident connected with it. One morning, when people on business arrived there, they were treated to an entertainment they had not counted upon, for upon entering they found the cashier of the bank, the late Mr. George A. Trumbull, and the late F. W. Paine, each armed with a long-handled broom, trying to separate two dogs engaged in mortal combat, an end only achieved when the contents of Mr. Paine's snuff-box were thrown into their faces, and then the aggressor was ejected from the bank. The floor was swept up, and the two chief actors in the affair had retired, one to his armchair in the window, and the other behind the counter, and then the business of the bank began.

The story was that "Jack Paine," as he was called on the street, a Scotch terrier belonging to Mr. Paine, had arrived with his master, as was his usual custom every morning at the bank, and being very weary after his long walk and having had several lively encounters with friends on his way up town, had retired to his own private corner to take his first nap of the morning, for he was accustomed to take many in the course of the day, as he waited the pleasure of his master in different banks and insurance offices; when an outsider, an old enemy of his, having seen him enter, watched his opportunity, got into the bank and attacked him just as he was dropping off to sleep, and thus the fight. Those who remember Mr. Trumbull and his racy mode of speech, when occasion offered, can readily understand what an amusing story he made of this affair, as he described the prowess of Mr. Paine and himself with the broomsticks, in this battle royal of the dogs in the old Citizens' Bank.

I have referred to the bank window as being an excellent place from which to view all that was going on in the street. One day one of the frequenters of the bank saw, or thought he saw, his daughter pass the window practis-

ing what was called the "Grecian bend," an ungainly style of walk practised by the young people of that day. He walked home at noontime brimming over with wrath, and demanded that the culprit should appear before him. "I was mortified," he said, "to have my friends in the bank see you making such an exhibit of yourself as you did when you passed this morning, and I tell you I won't have it." "But, father, I have not been out of the house this morning, and have not been near the bank." "I don't care if you have been out or not, that is the way you would have looked if you had been by it, and I tell you I won't have it."

This last argument being unanswerable, the young lady retired, and when she wished to practise the "Grecian bend," in the future, she took good care to walk in a direction where the parental eye would not follow her.

The cashier and all the old frequenters of the Citizens' Bank have long since passed away, and while we hold them in respectful remembrance we may feel sure their feelings would not be hurt, if we recalled any amusing incident connected with their lives while they were with us.



